

Health Literacy and Literacy Perceptions among Women Attending Maternal Child Health Clinics in Meru County, Kenya

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Abstract: Upon her independence in 1963, Kenya set out to eradicate three endemic ills: poverty, disease and ignorance as stipulated in Sessional Paper No 10, of 1965. The three ills are closely connected with illiteracy, a characteristic often associated with women. Health illiterate women have inability to access, understand and act on health information. A recent study in Meru County, Kenya, whose main purpose was to find out the health literacy status, perceptions and challenges of the women attending Maternal Child Health Clinics was undertaken in six selected health facilities. It was expected that the results of the study would have similar implications for Meru as well as Kenyan women in general. A descriptive research design, which included both quantitative assessments of the women's individual health literacy performances as well as the qualitative evidence of their health literacy perceptions and challenges, was used. The Integrated Model of Health literacy by Sorensen and colleagues [1] and the Education Model by Shrestha and colleagues [2] were the basis upon which data was collected and analysed. Data was generated from ninety randomly selected women in the health facilities cited above. Three research instruments, namely Pre-test Survey questionnaire (PSQ), a health literacy-screening test (HLST) and a health literacy test (HLT) were developed and used. Results of the study indicated that although 89 per cent of the women considered themselves "literate" as measured by PSQ only 20 per cent of this sample was confirmed "health literate" as measured by HLT. The perceived benefits of health literacy cited ranged from literacy as a tool for gathering health knowledge to a safeguard against cheating and manipulation. The results of the study will immensely benefit scholars in the area of adult literacy, health personnel involved in public health and government policy makers on health promotion.

Keywords: Health literacy, Health Literacy perceptions, maternal child health clinics.

INTRODUCTION

The concept literacy

Literacy in its basic definition, and as is used in everyday life, is the ability to read, write and perform basic numerical tasks. The term literacy has, however, evolved over the years to refer to a multitude of more complex competencies or "literacies" [3]. Consequently, several conceptualizations of the term literacy have emerged. Below are the most prominent of these and conceptualizations:

Literacy as a functional skill

Conceptualized as a functional skill UNESCO coined the term "functional literate" as "a person who has acquired the knowledge and skills in reading and writing which enable him to engage effectively in those activities in which literacy is normally assumed in his culture or group" [4]. This means literacy functionality is not a universal skill and varies in accordance with its use in the society in which it is practised.

Literacy as a continuum of abilities

In its 1957 definition UNESCO further conceptualized literacy as:

A characteristic acquired by individuals in varying degrees from just above none to an indeterminate upper level. Some individuals are more literate or less literate than others are, but it is not possible to speak of literate and illiterate persons as two distinct categories [5]. In this conceptualization, literacy is not a dichotomous skill where some people have and others do not have. Individuals have a variable skill at varying degrees of competence.

Literacy as a collaborative process (LCP)

Conceptualized as a collaborative literacy practice, a group of individuals pool their literacy skills to perform a particular task, depending on their skill and expertise. In a collaborative literacy task, there are three modes of engagement to perform the task. These are *technological engagement, functional engagement and*

social engagement. When some people perform a literacy task by mediating for others, they are said to be *technologically* engaged in the literacy task. When some other people advise or direct others on how to go about a literacy task the way a husband might direct his wife on what sections of a medicine label to read to treat a sick child these people are said to be *functionally* engaged in the collaborative literacy task. When some other people are aware or knowledgeable of the need to consider others' technological and functional engagement, they are said to be *socially engaged* in the task. Borooah [6] argues that some of the disadvantages to a person of being illiterate may be mitigated if he/she lives in a household in which other members are literate since, for many activities, having access to the ability of the literate members to read and write may serve as a form of 'surrogate' or 'proximate' literacy.

Health Literacy

Health literacy is an expanded form of literacy, first conceptualized by Simonds [7] as the degree to which individuals have the capacity to obtain, process and understand health information and act on it to make appropriate health decisions such as the use of health products and services [8]. Health literacy is a specific form of literacy for dealing with a practical social need and this need is healthcare.

Rationale of the study

Health plays an important role in the life of any community. Seeking health information, for many people in the world, is part of life. This is the case among communities in Kenya, both in their public as well as in their private life. Like other countries, many institutions, whether they are formal or informal, exist to cater for the increased demand for health-care. To this end, and upon introduction of literacy, the amount of print information in the health sector is quite a lot. There is print in form of patient information leaflets, labels on medicine packets/ bottles and doctor's instructions to patients. In addition, there is an assortment of print information found in health outlets such as rural health centres, pharmaceutical and retail shops, dispensaries and the like. To cope with this amount of print health information one requires to be sufficiently health literate.

However, the frequent reports of low literacy levels among women in particular, as health information consumers, point to a very worrying trend. The low literacy levels can easily compromise the quality of healthcare such women provide. Although medical personnel usually give accompanying oral instructions to the women during their routine visits, there is a likelihood of forgetting such instructions, and Almy [9] noted such an outcome. It is upon this realization, among others, that the current study was conceived. The problem was narrowed down and

documented, objectives set, study mounted, data collected and analyzed.

STATEMENT OF THE PROBLEM

Women are important custodians of family health and to fully meet the demands of modern healthcare they should be sufficiently health literate, that is, they should be able to access, understand and correctly deal with health information. They should also hold views that are in tandem with modern health practices. However, results from other studies, most of which were corroborated in this study, indicate that many women in the world are not health literate. The women usually do not accurately read and understand public health information as well as medical instructions or prescriptions given by the doctor, either orally or in written form. This outcome makes them unable to promote their own health and that of their family. Results from this study point to low health literacy status among women attending maternal child health clinics. The fact that the women do not have sufficient health literacy and have to keep relying on literacy mediators, who might themselves be unreliable or equally health illiterate is worrying. The study concludes that the women may also have poor understanding of their condition and are further likely to have beliefs that interfere with proper adherence to treatment recommendations.

OBJECTIVES OF THE STUDY

The study had three objectives stated as follows:

1. To find out the health literacy status of women attending maternal child health clinics in Meru County as measured by Health Literacy Screening Test (HLST) and Health Literacy Test (HLT)
2. To examine the literacy perceptions of Meru women attending maternal child health clinics in Meru County as measured by the Pre-test Survey Questionnaire (PSQ)
3. To identify the health literacy-related challenges faced by women attending maternal child health clinics in Meru County, and how they deal with the Challenges as measured by PSQ

Scope and limitation of the study

The scope of the study involved direct literacy tests on native Meru women mothers attending selected maternal child health clinics in Meru County and who had 'self-assessed' themselves as "literate". Health literacy was tested using Standard English, Kiswahili and Kimeru. It was not possible to test women mothers who were not attending the said clinics because of time, finances and other constraints.

Theoretical Models

Two theoretical models namely "the Integrated Model of Health Literacy" by Sorensen [10] and "the

Education Model” by Joshi [11] formed the basis from which the data was collected and analyzed. The models are discussed below.

Integrated Model of Health Literacy

The integrated model of health literacy was proposed by Sorensen et al. and combines the qualities of a conceptual model outlining the main dimensions of health literacy (represented in the concentric oval shape in the middle of Figure 1 below), and of a logical model showing the proximal and distal factors which impact on health literacy, as well as the pathways linking health literacy to health outcomes [12].

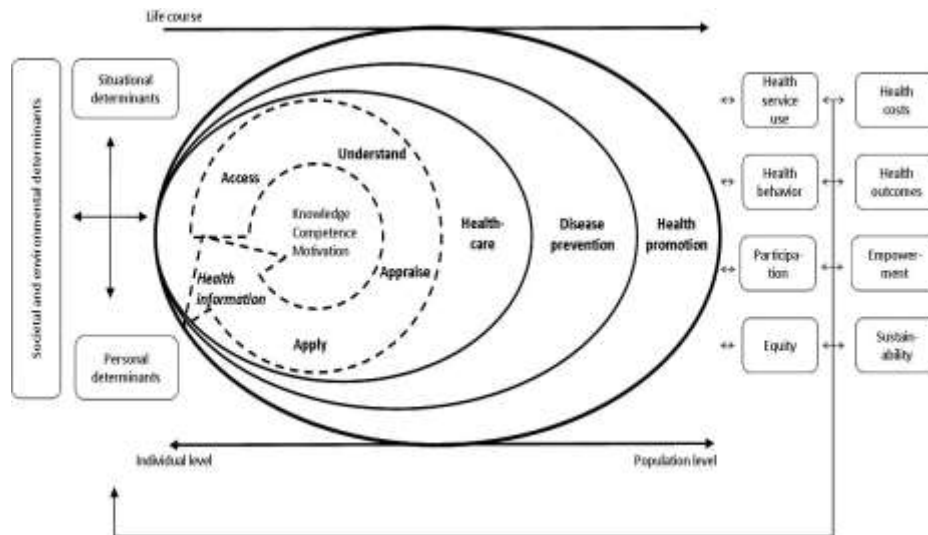


Fig-1: Integrated model of health literacy by Sorensen et al.(2012)

Core of the model shows the competencies related to the process of accessing, understanding, appraising and applying health-related information. This process requires four types of competencies (1) Access refers to the ability to seek, find and obtain health information on medical or clinical issues, (2) Understand refers to the ability to comprehend the health information that is accessed, (3) Appraise describes the ability to interpret, filter, judge and evaluate the health information that has been accessed, and (4) Apply refers to the ability to communicate and use the information to make a decision to maintain and improve health.

Each of the competencies represents a crucial dimension of health literacy. In this model individuals use their health literacy skills to acquire the necessary information, understand this information, critically analyze and appraise it and independently act on it. The model integrates the “medical” conceptualization of health literacy with the broader “public health” perspective. Placing greater emphasis on health literacy has the potential to impact on preventive health [13].

The model particularly informed objective one of this study, which was about the health literacy status of Meru women attending maternal child health clinics in Meru County. The women were particularly tested on their ability to comprehend (understand, in this model) and use (apply, in this model) health information in their environment.

The Educational model

The education model as conceptualized by Joshi [14] was used in this study and the model defines four (4) mechanisms that mediate between education and health:

1. Time spent in school and work
2. School acquired disposition
3. Literacy skills
4. Health knowledge

A schematic representation of the model is as shown below:

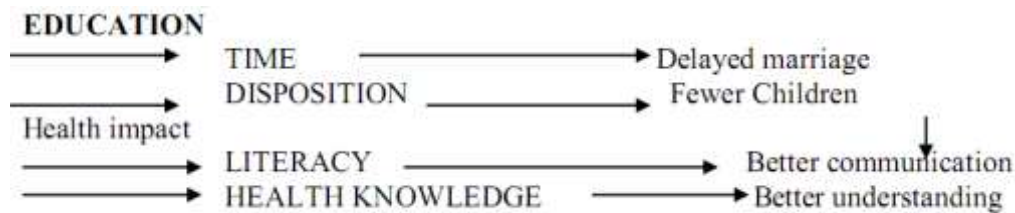


Fig-2: The Education Model(Source: Shrestha *et al.* [15])

According to the Education Model, the four mechanisms cited operate as follows:

(a) Time

Girls in school naturally delay their marriage. Secondly, educated girls seek employment and in the process delay their marriage. Delayed marriage leads to fewer children, which leads to better health for them.

(b) Dispositions

Educated women acquire dispositions that lead to smaller families and other positive health outcomes when they become mothers later in life. Women that are more educated use school acquired dispositions in their relationship with their husbands, providing better participation in important health and family planning decisions, also tied to years of schooling.

(c) Literacy

The level of a woman’s literacy has an impact on both directions-input and output of communications involved in health and family planning. In one direction, literate women are better able to communicate their needs and the conditions of their children to health workers. In the other direction, literate women are better able to understand health information presented orally or in any other form. This mechanism is tied to the level of literacy, not years of schooling.

(d) Health knowledge

The fourth mechanism is the acquisition of health and family planning knowledge. Most literacy programmes have some health and family planning information included in their materials. School texts also include these health messages. In this case, education programmes serve as an effective venue for health and family planning knowledge. According to the Education Model, the first two mechanisms are more likely to operate on women who acquire their education as girls in formal schools, though some of the dispositions may be acquired in adult literacy classes. The third mechanism operates equally with both formal schooling and non-formal literacy.

The fourth mechanism is more likely to have an impact on women in non-formal education settings, since the extent of the health and family planning education provided to girls in school is limited by

culture and takes place long before they have an opportunity to manage a family.

The Education Model explores what it is in education that promotes better health. Formal education directly teaches health knowledge to future mothers. Literacy and numeracy skills acquired in school help future mothers to process and gather health knowledge. Exposure to formal schooling makes future mothers receptive to modern medical treatments. Health knowledge means health information. Literacy skills enable mothers to increase their stock of health knowledge. Change of attitude due to schooling helps mothers change their traditional methods of raising children and treating their health problems. The literacy mechanism of the model particularly informed this study in regard to objective one and indirectly to objective two (respondents’ literacy perceptions) and three (respondents’ ability to deal with literacy related problems)

Related studies in the context of health care

Baker *et al.* [16] used the Test of Functional Health Literacy in Adults (TOFHLA) in his study of high school graduate patients seeking medical care in a walk-in clinic of an emergency department in an American environment. Results indicated that 19 per cent of the graduates showed inadequate literacy and 11 per cent showed marginal literacy as measured by TOFHLA. This American study inspired the current study in its approach and implications. The Rapid Estimate of Adult Literacy in Medicine (REALM) has been used in America to screen for low literacy. REALM is designed to assist medical personnel in estimating a patient’s literacy level so that the appropriate level of patient education materials or oral instructions may be used [17].

According to Redman [18] the TOFHLA and REALM studies confirmed that apart from several patients having low literacy levels they may also have problems with basic clinician-patient communication (such as three times a day) and may also lack the necessary vocabulary to ask pertinent questions [19]. The patients may also have poor knowledge of their conditions [20].

It has also been noted that low literacy patients did not know what ‘orally’ meant and were not sure

whether medications for an ear infection should go in the mouth or in the ear [21]. Many of the findings in the TOFHLA and REALM studies have been corroborated in the current study.

Joshi [22] conducted a research in Nepal on the relationship between maternal schooling and child health. This came from the heels of Smith [23] claims emphasizing that there is a connection between women’s education and the health status of their children. While agreeing with this view, Shrestha *et al.* [24], however, wondered whether it is the experience of schooling or the literacy skills acquired in school that lead to an impact in health maintenance.

To Shrestha *et al.* policy makers are operating without a solid empirical basis or tested research on this matter. Joshi [25] concluded that the level of a woman’s literacy has an impact on the communications involved in health and family planning behaviours. One of the most important findings was that literate mothers were found to understand health information better than the less literate ones. However, it was not clear from Joshi’s study what constituted “more literacy or “less literacy” or whether the language of literacy was an important factor, something the current study has been able to document. The current study has corroborated Josh’s findings.

In a related study, Smith [26] did a study of 400 mothers in Kuwait Teaching and referral Hospital in which she compared the child health of the children born to literate and non-literate mothers in terms of the children’s vaccination status, personal hygiene and social development among others. Expanded Program of Immunization (EPI) and World Health Organization (WHO) assessed vaccination status as per recommended routine immunization. Hygiene was assessed by personal cleanliness of the child in terms of nail trimming, clothing, and oral-dental hygiene. Personal-social development was assessed by a developmental screening test.

Based on the results of the study, Smith [27] concluded that there is a strong and consistent correlation between maternal education and child health. For example, she noted that literate mothers have better knowledge of the importance of children’s vaccination leading to increased vaccination status of children among literate mothers than their illiterate counterparts. A further study by Borooah [28] involving 33,000 rural households encompassing 195,000 individuals in 16 states of India explored the role of literacy in reducing the risk of child malnutrition and

concluded that literate mothers make more effective use of health-care institutions than the less literate. This in turn makes the benefits of maternal literacy flow to children in terms of reduced risk of child malnourishment. The same benefits, however, do not flow when the father is literate. Borooah [29] further claims that the number of children born to a woman is inversely related to her level of education.

METHODOLOGY

Location of the study

The current study was carried out in six selected health facilities in Meru County based on their accessibility and convenience. These were Meru County Level Five Hospital, Meru Family Health Unit, Nkubu Consolata Hospital, Nkuene Sub-County health Unit, Githongo Sub-County Health Unit and Kanyakine Sub-County Health Unit.

The sample

The sample comprised a randomly selected group of ninety (90) women ranging in age from sixteen (16) to forty (45) years by their own confessions. The women were chosen based on “first come first served” during their routine walk in - walk out clinic visits in the health units cited above.

Data elicitation

Data was collected using three research instruments which combined indirect (proxy or self-reported) literacy for preparatory stages as well as direct measures of literacy for the main study. The instruments were:

1. A pre-test survey questionnaire (PSQ) comprising an assortment of ten (10) open-ended and multiple-choice questions to be answered orally to assess the respondents' background information.
2. A health literacy-screening test (HLST) to weed out the potential respondents who would not be able to proceed with the literacy tests. HLST was a twenty-five (25) word reading recognition test that was used to screen for very low literacy status among the respondents.
3. An actual health literacy test (HLT) comprising an assortment of ten “comprehend –do” reading tasks found in everyday life and which ranged from patient information leaflets, labels on medicine bottles, medical information alerts etc.

Health literacy competences

HLT test was administered to the ninety (90) respondents and scored based on the following criteria shown on the table below:

Table 1: Scoring procedure in HLT

Level	D	e	s	c	r	i	p	t	i	o	n	Score
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I.	Respondent reads fluently and explains/gives correct answer with confidence	5
II.	Respondent reads slowly and explains/gives correct answer hesitantly	4
III.	Respondent reads poorly and explains/gives answer partly incorrectly	3
IV.	Respondent reads poorly and explains/gives answer largely incorrectly	2
V.	Respondent makes very little attempt to read and to answer the question asked	1
VI.	Respondent gives an unsuccessful attempt to read and to answer the question asked	0

RESULTS

Based on the health literacy test (HLT) the health literacy competencies were summarized below:

Table 2:

Health literacy level	English			Kiswahili			Kimeru			Total Av Percentage		
Non- Health Literate	1	0	%	1	0	%	7		%	9	%	
Low Health Literate	4	7	%	3	6	%	2	3	%	3	5	%
Marginal Health Literate	3	0	%	3	6	%	4	3	%	3	6	%
High Literate	1	3	%	1	7	%	2	7	%	1	9	%

The following is a visual impression of the health literacy competencies:

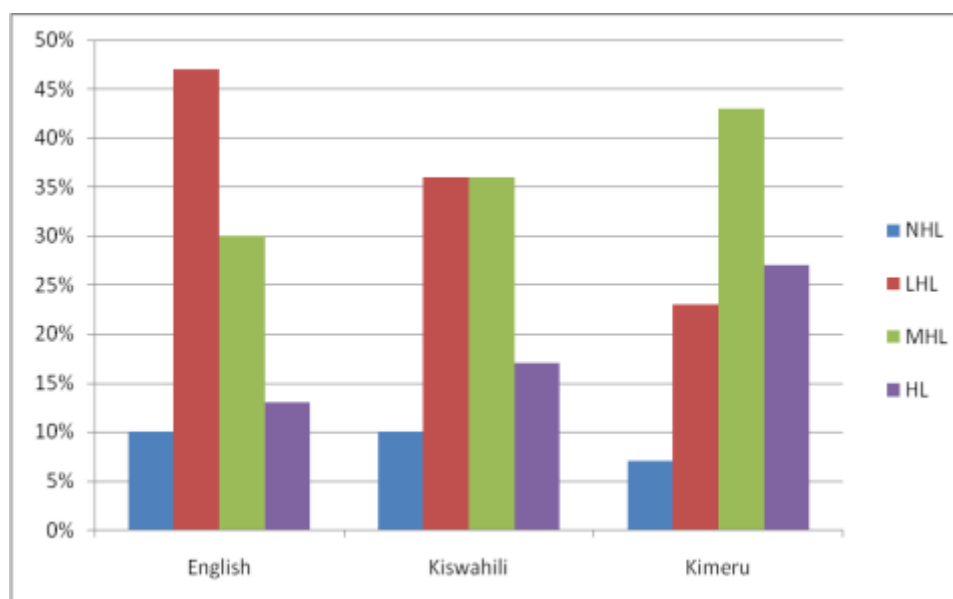


Fig-3: Bar graph of the health literacy competencies in English, Kiswahili and Kimeru

Key: NHL- Non-health literate, LHL- Low health literate, MHL- Moderate health literate, HL - High health literate

A quick observation shows that 44 per cent of the respondents in the whole were either low health literate or non-health literate while 36 per cent were only marginally health literate. A paltry 9 per cent was health literate.

The poor health literacy outcomes can be explained by several reasons including:

1. Incomplete understanding of healthcare messages

2. Inability to process information from graphic displays such as those found in the child health card
3. Inability to interpret health literacy discourse
4. Poor understanding of written language

Health literacy perceptions

Based on the findings the respondents had the following perceptions of literacy and by extension, health literacy:

1. Instrument for gathering health knowledge

2. weapon/strategy to avoid literacy mediators
3. tool to aid the memory
4. antidote against trickery by unscrupulous health practitioners
5. replacement for sign communication
6. Sign of “independence” from literacy mediators.
7. something to use to verify doctor’s instructions
8. attitude changer

Health literacy challenges

In respect of the respondents' health literacy challenges results indicated the following challenges:

1. Difficulty in understanding certain health terminologies, concepts and texts
2. Lack of translated health information versions in Kiswahili or Kimeru for respondents who were not proficient in English
3. Lack of literacy mediators or somebody competent to help to deal with certain misunderstood information
4. Being cheated and manipulated by unscrupulous practitioners with wrong information
5. Insufficient health information written on tablet envelopes

Strategies to deal with health literacy related problems

The following strategies to deal with literacy related challenges were cited:

1. Use of literacy mediators to assist to read in understood messages
2. Linguistic bifurcation in which one reads the same text in a language easier to understand
3. Refusing to act on unclear information
4. Use of inference (guess work)

RECOMMENDATIONS

1. On the basis of the results obtained and the subsequent discussions the following recommendations are made:
2. More rigorous health literacy studies targeting men and women at household level should be carried out to document more people who may have low health literacy levels.
3. Studies on how health literacy can be taught in schools to better prepare the citizenry to take care of their basic health needs should be carried out as this will reduce the cost burden to healthcare.
4. More studies should be carried out to determine how beliefs might interfere with adherence to recommended treatment regimes
5. This study recommends that health information and discourse be simplified and coded with clear language, pictures and symbols. Use of jargon and other technical language should be discouraged.
6. Health information should be available in all the languages of a catchment area and there should be language experts stationed in all hospitals to

mediate for patients who cannot understand English or Kiswahili or the language of a given catchment area.

7. Future research is recommended to find out what levels of health literacy correlate with what levels of education which are not based on years of schooling but knowledge acquired
8. Prescription dispensed over the counter should have their containers clearly marked to indicate what is being treated, dosage, expiry date and necessary cautions.
9. Women should be sensitized on the need to up their reading of maternal child health materials to improve their health management.
10. The functional role of Kiswahili and the local vernacular should be enhanced to encourage people to be more meaningfully health literate in those languages.
11. The best health literacy outcome for an individual Kenyan should be a trilliterate cocktail of health literacy in English, Kiswahili and mother tongue with equal functional status
12. It is not enough to eradicate ‘illiteracy’; literacy has to be made functional
13. This study recommends the use of direct tests as more accurate measures of literacy.

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